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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/294,341	04/20/1999	MASAAKI HIROKI	0756-1964	6027

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EXAMINER

ZAMANI, ALI A

ART UNIT PAPER NUMBER

2674

DATE MAILED: 01/14/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/294,341

Applicant(s)

HIROKI, MASAOKI

Examiner

Ali A. Zamani

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki (US Pat. No. 6,011,533) in view of Asada et al. (US pat. No. 5,883,609).

In regard to claims 1, 8, 14, 21, 27 and 33, Aoki discloses a display device comprising: a display panel (100) comprising a switching element for every pixel electrode (114); a scanning line driving circuit (102) for driving scanning lines of liquid crystal panel, a signal line driving circuit (110a and 110b) for driving signal lines of liquid crystal panel, a control circuit (20) for controlling driving liquid crystal panel, a video processing circuit (col. 1, lines 17-29), a circuit for producing a phase difference (32). Aoki fails to expressly teach in a second signal with respect to phase of a first signal which is inputted to the signal driving circuit for to the scanning circuit line driving circuit or to said scanning line driving circuit". However, Asada discloses a liquid crystal display comprising: an active matrix array having switching elements thereof arranged at cross points between scan lines and data lines (Fig. 1). Furthermore Asada discloses a

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vertical drive circuit comprises of a plurality of cascade half-bit scan circuits (25-1...25-41) and a horizontal circuit comprises a shift circuit (25) composed of a plurality of cascade half-bit scan circuits (See Fig. 15) which the input pulse signal is shifted in synchronism with one of paired dual-phase input clock signals (CLK) wherein the first signal has a reversed phase relation with second signal (see Fig. 6) and is selected as a drive signal for the shifting in either direction, so scan signals (P-1...P-40) are available with a delay equivalent to half a pulse cycle of the selected clock signal (CLK). Asada substantially shows the concept of using a circuit for producing a phase difference in a second signal with respect to a phase of a first signal which is input to the signal line driving circuit or to scanning driving circuit (25-1...25-41) (see Fig. 15) is old. Thus, it would have been obvious to one of ordinary skill in the art to modify Aoki's matrix display of Fig. 1, to adapt Asada's phase signals and scan circuits (25-1...25-41) as configured in Fig. 15 to provide a multi-purpose display device which peripheral drive circuitry is operative with a small number of control signal terminals and an improved cost effect.

In regard to claims 3, 16, 28 and 34, Aoki discloses a display device wherein each of the first signal and second signal is a clock signal (Fig. 3).

In regard to claims 4, 5, 9-12, 15, 17 and 22, Asada discloses an image display device wherein the first signal has a difference rise time period (t_r) and a differ signal fall time period (t_f) from second signal (see Fig 7, col. 15, lines 42-51).

As to claim 6, Aoki discloses an image display device wherein the circuit (32) for producing phase difference (Fig. 1) and Asad discloses a circuit (25) which the input pulse signal

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is shifted in synchronism with one of paired dual-phase input clock signals (CLK), which is selected as a drive signal for the shifting in either direction (Fig. 15).

In regard to claims 7 and 13, 20, 26, 32 and 38, Aoki discloses an image display device which is a projection type display (see Fig. 38) including a transmission type liquid crystal panel and a light source (1102) (col. 20, lines 7-43).

In regard to claims 18, 23-25, 29-31, 35-37 and 39-44, Asada discloses a display device wherein a length of phase difference is at least a signal rise time period (t_r) of the first signal or a signal fall time period (t_f) of the first signal, and shorter than a half of a signal holding time period (t_c) (see Figs 21-24).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Zamani whose telephone number is (703) 308-6414. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerepe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

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or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 306-0377.

Ali Zamani

January 5, 2004


